

Amendments to the Drawing Figures

Enclosed with this Amendment and Reply are six (6) sheets of corrected Replacement Sheets of drawings of Figs. 4-9. The Replacement Sheets label Figs. 4-9 as Prior Art.

REPLY

The Examiner rejected claim 1 under 35 USC §103(a) as being unpatentable over the admitted prior art in view of any one of Cozzoli '342, Cozzoli '688 or Bradford et al. The Examiner further rejected claim 1 under 35 USC §103(a) as being unpatentable over Dopper et al in view of any one of Cozzoli '342, Cozzoli '688, or Bradford et al.

The present invention relates to a method and apparatus for improving the uniform sealing of a resinous or plastic tube.

Dopper et al appears to be the closest cited prior art. Dopper et al discloses a method of sealing a plastic container. Hot air or gas is injected through a supply pipe 6. When the neck of the bottle starts to melt, the element 3 is withdrawn and the bottleneck is compressed by presser jaws 9.

The other references cited by the Examiner are non-analogous art.

Cozzoli '342 discloses a method of sealing glass tubes. Heat is applied externally to a glass tube. The glass tube is then drawn or stretched to form a relatively small diameter capillary. The capillary is heated and fused. Also disclosed is that a more uniform application of the bands of heat may be applied to the

glass tube if the glass tube is rotated or at least oscillated about its axis during the first and second heating stages.

Cozzoli '688 discloses an automatic filling and sealing machine. The machine includes a sealing station that externally heats the neck of the ampule and rotates ampule during heating.

Bradford et al discloses a process for heat shrinking polymer sleeves onto pipes used in sulfur mining using the Frasch process. The sleeve on the pipe is externally heated as the sleeve rotates.

Both Cozzoli '342 and Cozzoli '688 relate to the sealing of glass ampules or containers by externally heating the glass ampule or container until a relatively small glass tube opening is fused. Cozzoli '342 and Cozzoli '688 are not in the field of the Applicant's endeavor. The Applicant's field of endeavor is sealing a resinous or plastic tube, and not glass tubes. The difficulties associated with sealing a resinous or plastic tube are not generally related to the sealing of glass tubes or ampules having a relatively small capillary type opening. Therefore, the problems associated with sealing a plastic or resonance tube would not necessarily be solved by the art of sealing glass tubes having relatively small capillary openings. Therefore, the problem of more uniformly sealing a relatively large open end of a resinous or plastic tube prior to clamping of the open end are not reasonably pertinent to the art of drawing

and sealing of glass tubes having a relatively small capillary opening. Therefore, any teachings disclosed in Cozzoli '342 and Cozzoli '688 relating to the external heating and sealing of glass tubes having a relatively small capillary end by fusion are not reasonably pertinent to the particular problems with which the inventor was concerned.

Bradford et al is more clearly non-analogous art in that it is completely out of the field of Applicant's endeavor and does not even involve sealing an open end, but in heat shrinking a polymer sleeve onto a pipe to protect it from the corrosive effects of sulfur during sulfur mining. Therefore, Bradford et al had no relation and is not reasonably pertinent to the particular problem with which the inventor was concerned.

New claims 2-4 have been added to more particularly recite Applicant's invention.

New method claim 3 specifically recites holding a threaded end of the resinous tube in a conveying jig in combination with inserting a heating apparatus and rotating the conveying jig simultaneously during the step of blowing hot blow.

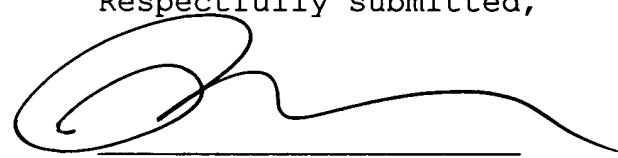
New independent apparatus claim 4 specifically recites that the conveying jig mates with a receiving portion mounted on the conveying apparatus and is adapted to hold a pouring-out end portion of a resinous tube in combination with a rotating ascending and descending member, positioned to selectively engage

the conveying jig, so as to result in an inner peripheral portion of the open end of the resinous tube to be uniformly softened and melted.

Even should Cozzoli '342 and Cozzoli '688 be determined to be analogous art, the combination of a conveying jig and a rotating ascending and descending member as recited in new independent apparatus claim 4, is not disclosed therein. Therefore, the apparatus as claimed in independent claim 4 would not be formed even if combined with Doper et al. Additionally, the teachings in Cozzoli '342 and Cozzoli '688 in no way suggest or teach modifying Doper et al in a way so as to form the invention as claimed in new independent apparatus claim 4.

It is respectfully requested that the Examiner reconsider the present application and forward the Notice of Allowance.

Respectfully submitted,



Paul A. Fattibene
Reg. No. 31,694

2480 Post Road
Southport, CT 06890
Tel. 203-255-4400
Fax 203-259-0033

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